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Of the twenty-four lines, two were built by the Communists since 1950. 496

A. The Lai-pin -- Mu-nan-kuan Railway

Originally a section of the Hunan-Kwangsi Railway, this line had already been partially built by the Nationalist Government before World War II. The construction work stopped when Nanning was occupied by the Japanese in 1939. The Communist Government resumed construction in October 1950. It was reported that the whole line would need three million cubic meters of earth-work and four million cubic meters of stone-work. Two large bridges (Yung-chiang and Lai-pin), twenty medium bridges, fifty small bridges, and over a hundred culverts were built.[1] The Chinese Communists mobilized tremendous manpower to facilitate the construction. According to a Communist newspaper, more than 7,000 members of the Railway Corps, 4,000 experienced railway workers, and over 30,000 civilian laborers were organized into two bridge-building teams, nine construction teams, and three rail-laying teams.[2] It was reported that nearly 100,000 peasants in about a dozen hsien had been mobilized for the work of construction.[3] 499

The Lai-pin -- Mu-nan-kuan Railway was completed and opened to traffic on November 7, 1951. The purpose of building this line was chiefly military rather than economic, since it would serve to 491

1. Nan-fang Jih-pao [South China Daily], Canton, Oct. 19, 1950.
2. Ta-kung Pao [Ta-Kung Daily] Hong Kong, Aug. 29, 1950.
3. Ibid., Oct. 26, 1950.

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and officially opened to traffic[7] on July 1, 1955. 496
The completion of the railway provides favorable conditions for the consolidation of national defense, aggression against Formosa, and the promotion of foreign trade. The main line is 345.78 kilometers long; in addition, there are special and service lines; in all, 396 kilometers.[8]

One of the new construction projects is the Amoy--Ying-t'an Railway. The railway is to be about 416 kilometers long. Construction began in October 1954 and is scheduled to be completed[9] before 1957. Like the Li-t'ang--Chan-chiang Railway, it is to be built under the leadership of the Army, and it will be valuable to the military. A report presented to the National People's Congress by the Communist Defense Minister P'eng Teh-huai, stated that when railway engineers and civilian workers were mobilized, construction would be accelerated to complete this strategic railway in order to facilitate the military campaign against Quemoy and Formosa.[10]

II. RAILWAY-BRIDGE CONSTRUCTION 499

During the first five years of the Communist regime, a number of projects for the strengthening or

7. NCNA Release, Peking, June 23, 1955.
8. Ibid.
9. China Daily News, New York, Aug. 8, 1928, 1955.
10. China News Service, New York, August 17, 1955.

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construction of railway bridges was under way. 499

A. The Yellow River Bridge

This, the oldest railway bridge on the Peking-Hankow Railway in Honan Province, was built by French and Belgian engineers in 1900. The speed of trains crossing the 2-1/2 mile bridge was first limited to 15 kilometers per hour, and since that time the service has grown worse. Before 1949, only the smallest locomotives could be used on the bridge, and only when pulling a very few cars at any one time. After 1949, the Communists began to strengthen the bridge. By 1953, strengthening was completed and haulage increased from 600 tons to the normal hauling capacity of 800 tons or more; the speed was improved to the maximum normal speed of about 45-50 kilometers per hour. The total passing time for crossing the bridge was shortened from 30 minutes to 17 minutes.[11]

B. The Yangtze River and the Han River Bridges

Two rivers, the Yangtze and the Han, separate the Peking-Hankow Railway from the Canton-Hankow line. The Peking-Hankow Railway stopped short at the banks of the Han River, where the Han River Bridge had to be built. The construction of the 300-meter (984 feet) bridge began in November 1953 and was completed[12] in November 1954.

11. Ching-chi Nien-pao, 1953 [Economic Yearbook, 1953], Ching-chi tao-pao she, Hong Kong, 1953, p. 23.

12. Far Eastern Economic Review, Hong Kong Nov. 4, 1954, pp. 594-95.

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The Yangtze River Bridge is one of the biggest and most important projects in the first Five-Year Plan of Communist China. The Han River Bridge, described above, is to link Hankow and Hanyang, and the Yangtze River Bridge is a link between Wuchang and Hanyang. This bridge will be the biggest and most modern railway bridge in the Eastern Hemisphere and will be the first large bridge built entirely by Chinese engineers. The work of designing it took about a year's time.[13]

The total span of the double-deck bridge will be over a kilometer (nearly 3/4 of a mile) long, carrying six lanes of traffic and pavements for pedestrians, while the lower deck will carry a double-tracked railway. The bridge will be as tall as a twenty-story building. Although it is a fixed bridge, it is at a height sufficient to permit all-year-round steamers up to 10,000 tons to pass beneath it.[14]

The superstructure and the roadway will have a dead weight of 30,000 tons. The total height from the base of the foundation to the top of the piers will be about 60 meters. River-bed silt below the bridge site varies in thickness from 0 to 40 meters, while the water level varies by some 17 meters during the year. The most difficult task will be the foundation work on rocks below the top soil.[15]

Among those taking part in the construction of the Yangtze River Bridge are twenty-six bridge engineers, with Dr. Mao I-sheng, the former designer and chief engineer of the Ch'ien-t'ang River Bridge, as chairman. Geologists, hydrologists, architects, designers, scientific research workers, and exper-

13. NCNA, Wuhan, April 14, 1955.
14. People's China, Peking, Aug. 16, 1954, p. 24.
15. Ibid.

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ienced laborers have joined in the planning of the bridge.[16] The construction materials, parts, machines and equipment used are made by various factories in Anshan, Sheng-yang, and Dairen in Manchuria, and in Tientsin and Shanghai in North and East China.[17] It was reported that construction began on July 18, 1955, and it is expected that the railway bridge will be completed during 1958; the highway deck will be finished during the following year.[18]

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When the undertaking is completed, two modern steel bridges spanning the Yangtze and Han rivers will bring the Peking-Hankow and Hankow- Canton railways together. Furthermore, all of the main railway lines in the south will connect directly or indirectly by way of the Yangtze River Bridge at Wuhan with the trunk lines of the north. All the highways in the south will also be connected with those of the north. In addition, the completion of the bridge will unite the three adjacent towns of Wuchang, Hankow, and Hanyang into a single unit; thus united, Wuhan a great industrial city of serious importance to the nation's economic construction, will become a unified municipality both in name and fact.

III. THE RAILWAY PLANTS OF CENTRAL-SOUTH CHINA

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There are seven comparatively large railway plants in the Central-South Region.[19]

16. China Daily News, Aug. 22, 1955.
17. Ibid. 18. Ibid.
19. Chung-k'ung Wen t'i [The Chinese Communist Problems], Hong Kong, Tzu-yu ch'u-pan-she, Series No. I, 1954, p. 76.

1:Stanford U. S-4, 5 1956 AF14 Central China AF14

Work on the Ching-chiang project commenced on April 5, 1952, and the first part of the plan was completed on June 20 of the same year. The volume of earth excavation totaled 23.1 million cubic meters, approximately equivalent to over 20 million man-days,[12] taking into account the almost complete absence of construction machinery. However, since further construction and annual maintenance and repair in view of the recurrent floods have had to be carried out, the continued employment of mass labor on the same general construction site may be expected.

III. LABOR CONTINGENTS IN HIGHWAY AND RAILWAY CONSTRUCTION (KWANGTUNG AND KWANGSI)

In the building of railways and highways both civilian labor and inactive troops are also used. According to a central government directive of March 31, 1951, civilians may be conscripted to work on highways at the rate of ten man-days a year. They have to supply their own tools and food and are given no monetary remuneration.[13] Only two railways have been built in the Central-South provinces since 1950, one from Lai-pin to Mu-nan-kuan (formerly Chen-nan-kuan) in Kwangsi, the other from Li-t'ang in Kwangsi to Chan-chiang (Kuang-chou-wan) in Kwangtung. Although highway construction has been concentrated in Northwest and Southwest China, some lines have also been built with mass labor in the Central-South, including the lines from Mei-hsien

12. Ronald Hsia, The Role of Labor-Intensive Investment Projects in China's Capital Formation, Cambridge, Mass., Center for Internat'l Studies, M.I.T., summer, 1954, p. 90.

13. [See following page.]

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in Kwangtung to Shang-hang in Fukien and the one from Ch'ing-yüan to Fo-kang in Kwangtung. The location of mass labor contingents in the future will doubtless depend upon the selection of the routes to be built.

IV. A TYPICAL "REFORM-THROUGH-LABOR" CAMP IN CANTON

Railway and highway building, as well as construction of large water conservation projects, are all examples of the concentrated employment of mass labor. A somewhat different case is found in the employment in Kwangtung of forced-labor groups in various agricultural, mining, and industrial undertakings. A typical case is provided by the "reform-through-labor" units under the direction of the Canton Public Security Bureau.[14]

According to the Canton Public Security Bureau, at one time, municipal construction received the largest allocation of labor force under the control of the Bureau. However, the prisoners were also put to work in producing bricks and tiles, reclaiming waste land, planting fruit trees and food and commercial crops, raising farm animals, and manufacturing various handicraft products, including rope and wooden and bamboo wares.

The bureau stressed that forced labor was supplemented by political education. Many prisoners were

13. Chung-yang Ts'ai-ching Cheng-ts'e Fa-ling Hui-pien [Compilation of Laws and Regulations Concerning Financial and Economic Policies], Vol. III, Peking, Ts'ai-ching wei'yüan-hui, 1952, pp. 713-15.

14. Ta-kung Pao, Hong Kong, December 15, 1951.